

**Amendments to the Claims:**

Claims 1-2, 4-5, and 7-9 are amended.

Claims 13-32 are added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, are presented. The text of all claims presently under examination is presented below in the listing of claims, and all claims are presented with an appropriate defined status identifier.

**Detailed and Complete Listing of Claims:**

1. (Currently Amended) A isolated DNA selected from the group consisting of:
  - (a) a DNA encoding a protein consisting of ~~the~~ an amino acid sequence ~~described in~~ of SEQ ID NO: 2 ~~or~~ 4;
  - (b) a DNA comprising the coding region of ~~the base~~ a nucleotide sequence ~~described in~~ of SEQ ID NO: 1 ~~or~~ 3;
  - (c) a DNA encoding a ~~mutant~~ protein consisting of the amino acid sequence ~~described in~~ of SEQ ID NO: 2 ~~or~~ 4, wherein ~~one or more~~ 1 to 30 amino acids are substituted, deleted, inserted, and/or added, said ~~mutant~~ protein ~~being~~ is a functional equivalent to the protein consisting of the amino acid ~~sequences described in~~ sequence of SEQ ID NO: 2 ~~or~~ 4; and
  - (d) ~~a DNA hybridizing to the DNA consisting of the base sequence described in SEQ ID NO: 1 or 3, and encoding a protein that is a functional equivalent of the protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4~~ a DNA encoding a protein consisting of an amino acid sequence with 70% or higher homology to SEQ ID NO: 2, wherein said protein is a functional equivalent to the protein consisting of the amino acid sequence of SEQ ID NO: 2.
2. (Currently Amended) A vector ~~in which~~ comprising the DNA of claim 1 ~~is inserted~~.
3. (Original) A host cell carrying the vector of claim 2.
4. (Currently Amended) A An isolated protein encoded by the DNA of claim 1.
5. (Currently Amended) A method for producing ~~the~~ a protein encoded by the DNA ~~selected from the group consisting of:~~
  - (a) ~~a DNA encoding a protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4;~~

(b) a DNA comprising the coding region of the base sequence described in SEQ ID NO: 1 or 3;

(c) a DNA encoding a mutant protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4 wherein one or more amino acids are substituted, deleted, inserted, and/or added, said mutant protein being a functional equivalent to the protein consisting of the amino acid sequences described in SEQ ID NO: 2 or 4; and

(d) a DNA hybridizing to the DNA consisting of the base sequence described in SEQ ID NO: 1 or 3, and encoding a protein that is a functional equivalent of the protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4 of claim 1, which comprises the steps of:

culturing ~~the host cells of claim 3~~ a host cell carrying a vector comprising the DNA of claim 1 is inserted, and

recovering ~~the~~ an expressed protein from said host cells or from ~~the~~ a culture supernatant thereof.

6. (Withdrawn) An antibody binding to the protein of claim 4.

7. (Currently Amended) A partial peptide of the protein of claim 4, wherein said partial peptide comprises 8 or more amino acids of the protein of claim 4.

8. (Currently Amended) A nucleotide that hybridizes with ~~the~~ a DNA consisting of ~~the base sequence described in~~ a nucleotide sequence of SEQ ID NO: 1 ~~or 3~~, or ~~the~~ a complementary strand thereof, having a chain length of at least 15 bases ~~in length~~.

9. (Currently Amended) A method of screening for a compound that binds to the protein of claim 4, comprising:

(a) exposing a test sample, containing at least one compound, to the protein of claim 4 or a partial ~~peptides~~ peptide thereof; and

(b) selecting ~~the~~ a compound that binds to the protein of claim 4 or said partial ~~peptides~~ peptide.

10. (Withdrawn) A compound that binds to a protein encoded by a DNA selected from the group consisting of:

(a) a DNA encoding a protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4;

(b) a DNA comprising the coding region of the base sequence described in SEQ ID NO: 1 or 3;

(c) a DNA encoding a mutant protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4 wherein one or more amino acids are substituted, deleted, inserted, and/or added, said mutant protein being a functional equivalent to the protein consisting of the amino acid sequences described in SEQ ID NO: 2 or 4; and

(d) a DNA hybridizing to the DNA consisting of the base sequence described in SEQ ID NO: 1 or 3, and encoding a protein that is a functional equivalent of the protein consisting of the amino acid sequence described in SEQ ID NO: 2 or 4,

wherein said compound can be isolated using the method of claim 9.

11. (Withdrawn) The isolated compound of claim 10, wherein said compound is a naturally occurring compound.

12. (Withdrawn) The compound of claim 10, wherein said compound is a ligand, an agonist or an antagonist.

13. (New) The DNA of claim 1, wherein said DNA encodes a protein consisting of an amino acid sequence that has 1 to 15 amino acids substituted, deleted, inserted, and or added from SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

14. (New) The DNA of claim 1, wherein said DNA encodes a protein consisting of an amino acid sequence that has 1 to 5 amino acids substituted, deleted, inserted, and/or added from SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

15. (New) The DNA of claim 1, wherein said DNA encodes a protein consisting of an amino acid sequence with 80% or higher homology to SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

16. (New) The DNA of claim 1, wherein said DNA encodes a protein consisting of an amino acid sequence with 95% or higher homology to SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

17. (New) The DNA of claim 1, wherein said DNA hybridizes to a DNA consisting of a nucleotide sequence of SEQ ID NO: 1 under a washing condition of 1.0x SSCP, 0.1% SDS at 65°C, wherein said DNA encodes a protein that is a functional equivalent of a protein consisting of an amino acid sequence of SEQ ID NO: 2.

18. (New) The method of claim 5, wherein said DNA encodes a protein consisting of an amino acid sequence that has 1 to 15 amino acids substituted, deleted, inserted, and/or added from SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

19. (New) The method of claim 5, wherein said DNA encodes a protein consisting of an amino acid sequence that has one to 5 amino acids substituted, deleted, inserted, and/or added from SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

20. (New) The method of claim 5, wherein said DNA encodes a protein consisting of an amino acid sequence with 80% or higher homology to SEQ ID NO: 2, and wherein said

protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

21. (New) The method of claim 5, wherein said DNA encodes a protein consisting of an amino acid sequence with 95% or higher homology to SEQ ID NO: 2, and wherein said protein is a functional equivalent to a protein consisting of an amino acid sequence of SEQ ID NO: 2.

22. (New) The method of claim 5, wherein said DNA hybridizes to a DNA consisting of a nucleotide sequence of SEQ ID NO: 1 under a washing condition of 1.0x SSCP, 0.1% SDS at 65°C, and wherein said DNA encodes a protein that is a functional equivalent of a protein consisting of an amino acid sequence of SEQ ID NO: 2.

23. (New) The partial peptide of claim 7, wherein said partial peptide comprises 15 or more amino acids.

24. (New) The partial peptide of claim 7, wherein said partial peptide comprises 50 or more amino acids.

25. (New) A isolated DNA selected from the group consisting of:

(a) a DNA encoding a protein consisting of an amino acid sequence of SEQ ID NO: 4, wherein said protein is a soluble-type cytokine receptor;

(b) a DNA comprising the coding region of a nucleotide sequence of SEQ ID NO: 3;

(c) a DNA encoding a protein consisting of the amino acid sequence of SEQ ID NO: 4, wherein 1 to 30 amino acids are substituted, deleted, inserted, and/or added, said protein is a functional equivalent to the protein consisting of the amino acid sequence of SEQ ID NO: 4; and

(d) a DNA encoding a protein consisting of an amino acid sequence with 70% or higher homology to SEQ ID NO: 4, wherein said protein is a functional equivalent to the protein consisting of an amino acid sequence of SEQ ID NO: 4.

26. (New) A vector, comprising the DNA of claim 25.

27. (New) A host cell carrying the vector of claim 26.

28. (New) An isolated protein encoded by the DNA of claim 25.

29. (New) A method for producing a protein encoded by the DNA of claim 25, which comprises:

culturing a host cell carrying a vector comprising the DNA of claim 25, and

recovering an expressed protein from said host cells or from a culture supernatant thereof.

30. (New) A partial peptide of the protein of claim 28, wherein said partial peptide comprises 8 or more amino acids of the protein of claim 28.

31. (New) A nucleotide that hybridizes with a DNA consisting of a nucleotide sequence of SEQ ID NO: 3, or a complementary strand thereof, having a chain length of at least 15 bases.

32. (New) A method of screening for a compound that binds to the protein of claim 28, comprising:

(a) exposing a test sample, containing at least one compound, to the protein of claim 4 or a partial peptide thereof, and

(b) selecting a compound that binds to a protein encoded by an isolated DNA selected from the group consisting of:

(1) a DNA encoding a protein consisting of an amino acid sequence of SEQ ID NO: 4, wherein said protein is a soluble-type cytokine receptor;

(2) a DNA comprising the coding region of a nucleotide sequence of SEQ ID NO: 3;

(3) a DNA encoding a protein consisting of the amino acid sequence of SEQ ID NO: 4, wherein 1 to 30 amino acids are substituted, deleted, inserted, and/or added, said protein is a functional equivalent to the protein consisting of the amino acid sequence of SEQ ID NO: 4; and

(4) a DNA encoding a protein consisting of an amino acid sequence with 70% or higher homology to SEQ ID NO: 4, wherein said protein is a functional equivalent to the protein consisting of an amino acid sequence of SEQ ID NO: 4

or a partial peptide thereof.